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USE OF WIRING SPACE IN ENCLOSURES AND "TAPPING-OFF" TO OTHER APPARATUS (RULES 6-054 AND 12-290)

Because of field difficulties under conditions where wiring channels in enclosures were overcrowded, and where "tap-offs" were made in enclosures, the aforementioned rules were formulated to prohibit enclosures for switches, etc. from being used as junction boxes, troughs, or raceways. However, it has become evident that the rules in question are unnecessarily restrictive if the requirements outlined therein are observed under all conditions.

While the various Code enforcing agencies and the Part I Committee recognize that some action is desirable to alleviate the above mentioned situation, it may be some time yet before Code rule revisions are adopted that will permit some relaxation of the present requirements. Pending these anticipated developments, therefore, and in the interests of uniformity, Rules 6-054 and 12-290 may, by special permission, be relaxed to the extent that they will allow arrangements whereby a single feeder may be tapped from an enclosure which is fitted with approved double barrel lugs, or other acceptable means, suitable for the conditions encountered. Such an arrangement will only be acceptable where the wiring space within the enclosure, or enclosures, is adequate to suitably accommodate the additional conductors and their terminations. This interpretation will not, however, obviate the need for compliance with other applicable rules which do not permit, for example, the use of the wiring channel in such equipment for conductors of circuitry not directly connected thereto. Also, Rules 14-054 and 14-088 must be observed with respect to conductor and bussing capacities.

USE OF TABLE 5-A FOR "R90" CONDUCTORS WITH CROSS-LINKED "X-LINK" POLYETHYLENE INSULATIONS

While Table "5-A" was initially formulated to make some allowance in conduit fill requirements for the fact that thermoplastic-insulated (Types "T" and "TW") conductors have overall diameters and cross-sectional areas lesser than those of the rubber-insulated types, it is now considered advisable to expand the application of this table in view of the recent development of conductors with insulations having dimensions equivalent to the thermoplastic types.

It will, therefore, be in order to use Table "5-A" in calculating the allowable conduit fill for conductors such as the "R90" "X-Link" type where data is submitted by the manufacturers to confirm that the overall conductor dimensional characteristics closely approximate, and do not exceed, those of the thermoplastic-insulated types in equivalent "AWG" wire gauges and circular mill sizes.

APPLICATION OF REQUIREMENTS FOR ELECTRIC SURFACE HEATING SYSTEMS (HAZARDOUS LOCATIONS)

In view of an increasing demand by industry for effective means whereby heating may be applied to piping, vessels, valves, etc. in hazardous locations, and developments in electrical products available for this purpose, it seems desirable and necessary to re-assess the policies outlined on Page 66 of the January 1963 special issue of the Quarterly Bulletin under which provision was made for heating tapes and cables to be installed, on a special permission basis, in Class I, Division II areas.

The incidence of failures in service of the non-metallic types (plastic-insulated and jacketted cables), and the lead sheathed soil heating cables, have been such as to indicate that the safety factors of such installations in hazardous locations are below acceptable levels. Because of the unsatisfactory service record of experimental installations, special permission for such materials to be used in hazardous locations will no longer be considered.

In consideration of available test data, and the satisfactory field record of heating cable sets having continuous metal sheaths such as the mineral-insulated type and/or equivalent, an extension of the special permission policies to permit the use of such materials in either Class I, Division I or Division II areas is considered warranted. In general, the considerations that will determine whether the material and installation method will be eligible for acceptance on a special permission basis will be the following:

(a) The heating cables and associated terminating fittings are such in characteristics and constructional design that they can be readily reconciled with wiring materials and methods which are presently, or will be, recognized by Section 18 of the Part I Canadian Electrical Code as suitable for use in Class I, Division I and Division II hazardous locations.

(b) The heating cables are factory engineered and assembled as heating cable sets, which shall include the application of non-heating sections (cold leads) for making connections to supply conductors. Non-heating sections of cable sets shall have continuous metal sheaths equivalent to the sheaths of heating sections and no heating cable set may be shortened or altered in the field.

(c) The design of a heating cable set intended for a specific application shall be such that under normal operating conditions the ultimate temperature attained on the metal sheathing of heating sections shall remain well below the ignition temperatures of flammable or explosive gases or materials which establish the hazardous area classification.

(d) Each heating cable set and/or combination of sets in a series connection arrangement shall be

supplied by an overcurrent device rated or set at not more than 115% of normal operating current, so arranged that under the lowered resistance of fault conditions there will not be excessive temperature rise on the cable sheaths.

(e) Heating cable sets shall be suitable for the environmental conditions encountered (corrosive atmospheres, etc.).

(f) When the surface heating system is being installed in an area where experience has shown it will likely be subject to lightning disturbances, suitable surge protection is to be provided.

In areas designated as Class I, Division II, metallic sheathed heating cables other than the mineral-insulated types may be used provided it can be substantiated that the material is, in design and characteristics, suitable for the environmental conditions encountered and meets the general requirements outlined in the foregoing.

EXIT LIGHTING FOR PREMISES USED AS PUBLIC ENTERTAINMENT HALLS, ARENAS, ETC.

It has been pointed out that in the installation of exit lighting in public halls, entertainment arenas, etc., the type of fixtures and their location, while meeting the requirements of the Canadian Electrical Code, do not, in all cases, comply with the regulations adopted by the Department of the Provincial Secretary, Amusement Branch. For the guidance of the electrical industry in the selection of exit lighting fixtures and the installation of same, the following excerpts from the applicable regulations are quoted:

"37. On the inside of the premises and over every door leading therefrom to outside of the building, shall be placed an exit light and sign, the letters of such signs shall not be less than four inches deep and illuminated from behind by a red light.

38. On the exterior of the premises there shall be provided over every door therefrom, a white light of sufficient candlepower to allow people to proceed in safety down the stairways or to the street or alley.

39. The wiring to exit lights both interior and exterior shall be controlled in a separate circuit from the main lighting of the building."

REMITTANCES WITH PERMIT APPLICATIONS

Recently a number of remittances submitted to the Provincial E.P.B. have been made payable to the "Receiver General" rather than the "Provincial Treasurer". Since this usually results in some unnecessary delay in the issuance of permits, the submittors of all cheques, bank money orders, postal notes, etc. are reminded that these are to be made payable to the "Provincial Treasurer".